

### REMARKS

The Office Action mailed August 25, 2008, has been received and its contents carefully noted. The pending claims, claims 1-23, were rejected. By this Response, claims 1-5, 10-12 and 17 have been amended. Claims 6-9 have been canceled. Claim 24 has been added. Support may be found in the specification and the claims as originally filed. No statutory new matter has been added. Therefore, reconsideration and entry of the claims, as amended, are respectfully requested.

#### **Rejections under 35 U.S.C. 102(b) or 103(a)**

Claims 1 and 10-23 are alternatively rejected as either anticipated under 35 U.S.C. 102(b) or as obvious under 35 U.S.C. 103(a) over JP 60127286. Applicants respectfully traverse.

Claims 1 and 10 are independent claims directed to a product defined by its method of preparation. Claim 11 is directed to a multi-step method for preparing a soil additive. The dependent soil additive claims of claim 1 further feature various component percentage weight ranges. The dependent method claims of claim 11 further feature, for instance, particle size ranges, analytical operations and the nature of processing streams. The dependent claims are not separately commented upon in the Official Action.

The independent claims presently feature final soil additive products having at least limestone, basalt, dolomite and claystone. The abstract of JP 60127286 relied by the Examiner describes a sustained release type silicate fertilizer. While limestone, dolomite, and andesite are mentioned in the Abstract, there is not seen therein any teaching of claystone or basalt. Both minerals are featured in the in the current independent claims.

As to the requirements for anticipation, a reference must teach each and every element required by the claims. Here, the abstract is silent as to at least two minerals required by the claims as amended. Withdrawal of the rejection as it depends on section 102(b) is respectfully requested.

The rejection is based alternatively on sections 102(b) and 103(a). Applicants respectfully submit that for a proper rejection (under alternatively sections 102(b) and 103(a)) of product by process claims, the reference must reasonably suggest the claimed product, even though it is made by a different process. As amended, the claimed product feature the presence

of two minerals, basalt and claystone, which are not taught by the reference. The reference thus clearly does not reasonably suggest the product as now claimed.

Further, there is no rationale provided as to why claystone and basalt would have been added to the mixture of the reference or employed as starting materials for the process also taught by the reference.<sup>1</sup> The currently claimed process of preparation also features the recovery of a final product containing each of limestone, dolomite, basalt and claystone. In short a prima facie case has not been established.

Withdrawal of the rejection is respectfully requested.

Claims 1-23 are alternatively rejected as either anticipated under 35 U.S.C. 102(b) or as obvious under 35 U.S.C. 103(a) over AU 683611. Applicants respectfully traverse.

AU 683611 has been considered. On page 3 of AU 683611, the mineral source is indicated as including dolomite, lime or bentonite. Mentioned in the example appearing on page 4 is a mixture of minerals described as containing granite (28%), basalt (28%), dolomite (7%) and bentonite (7%). There is no mention of claystone.

As amended, the independent claims feature the presence of limestone, basalt, dolomite and claystone. For a reference to be anticipatory, it must teach each and every element required

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<sup>1</sup> Neither JP 60127286 nor AU 683611 teach claystone or suggest the need for its presence. The inventors consider claystone to provide a binding agent in the pelletization process and also to provide extensive surface area when added to the soil, without the time lag for mineral degradation in prior art soil additives. As the increase in surface area is provided by the claystone virtually immediately upon addition of the additive according to the present invention to the soil, greater retention of the other constituents in the blended soil additive is achieved immediately upon application. As the remainder of the constituents of the soil additive, particularly basalt, degrade to become active constituents of the soil profile, they also provide additional active surface area to bind elements and prevent leaching of valuable soil components. This generally takes approximately two weeks from application and during this period, leaching of valuable soil constituents can occur, especially if rain falls on the soil. However, the clay present in the claystone is available immediately, increasing the active surface area immediately, and providing for the enhanced retention of the carbonate dusts and other valuable constituents of the soil, the retention qualities enhanced when the basalt begins to degrade. Further, in an exemplary embodiment of the invention, the claystone used has a lower shrink/swell property of the additive than "pure" clay. While the shrink/swell property of the additive is important in order to provide new surface area with area with each wetting event, the swell characteristic of the soil additive of an exemplary embodiment of the present invention is reduced thereby limiting over-fluffing of the soil with clay. Further, silicate tetrahedron, which forms the basic building block for the sheet structure of claystone, provides multiple sites for exchange reactions and binding of elements favorable to the soil, thus increasing retention of these elements in the soil. An example of favorable elements are rare earth elements (large ion lithophiles) which are intrinsic to the mineralogy of the basalt dust and also carbonate dusts. These elements and dusts are generally larger elements which need a significant active surface area in order to bind and for this reason are usually the first to be leached from the soil profile during the rain events. Thus the use of claystone in a soil additive, particularly one also having basalt, limestone and dolomite, dramatically increases the effectiveness of the soil additive.

by the claim. Here, it does not. Withdrawal of the rejection as it relies on anticipation is respectfully requested.

The Official Action additionally relies on section 103. The alternative grounds of rejection have been sanctioned by the courts in the context of rejections of the rejection of product by process claims. However, the claimed product must be reasonably taught by the reference even though it is prepared by a different process. Here, the reference product does not contain claystone.

Furthermore, there is no rationale provided in the Official Action as to why one would have selected claystone and added it to the composition of the reference.<sup>1</sup> As to this selection and reference product modification, a prima facie case of obviousness has not been established. Withdrawal of the rejection as to both statutory grounds is respectfully requested.

**Rejection under 35 U.S.C. 112, second paragraph**

Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse.

The points raised by the Examiner as to claims 1, 10 and 11 have been addressed by amendment. These claims as amended, feature the presence of limestone, dolomite, basalt and claystone.

Further, regarding “applicability” and “predetermined size”, it is respectfully submitted that the meaning of these terms becomes clear when the claims are read in light of the specification. For example, see page 10 and the following pages of the instant specification where the attributes, which render the minerals appropriate, are set forth. The properties considered are mineralogical and textural characteristics identified in the passages. Conventional analytical techniques are employed in their measure. The desired particle size of the ground rocks are set forth and relate to their end use. The desired sizes are identified for each of claimed minerals and therefore are “predetermined”. See, for example, pages 10-15 and 16-25 of the instant specification.

Claim 17 has been amended to refer to “steps” in the singular.

Withdrawal of the rejection is respectfully requested in light of the foregoing amendments to the claims and the comments provided above.

#### **Request for Interview**


Applicants respectfully request either a telephonic or an in-person interview should there be any remaining issues.

#### **CONCLUSION**

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Therefore, it is respectfully requested that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. However, in the event that additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. 1.136(a), and any fees required therefore are hereby authorized to be charged to **Deposit Account No. 02-4300, Attorney Docket No. 034161.002.**

Respectfully submitted,  
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